



**University of
Zurich**^{UZH}

**Zurich Open Repository and
Archive**

University of Zurich
University Library
Strickhofstrasse 39
CH-8057 Zurich
www.zora.uzh.ch

Year: 2013

Shaping performance: do international accreditations and quality management really help?

Nigsch, Stefano ; Schenker-Wicki, Andrea

DOI: <https://doi.org/10.1080/1360080X.2013.844669>

Posted at the Zurich Open Repository and Archive, University of Zurich

ZORA URL: <https://doi.org/10.5167/uzh-85631>

Journal Article

Accepted Version

Originally published at:

Nigsch, Stefano; Schenker-Wicki, Andrea (2013). Shaping performance: do international accreditations and quality management really help? *Journal of Higher Education Policy and Management*, 35(6):668-681.

DOI: <https://doi.org/10.1080/1360080X.2013.844669>

Shaping performance: do international accreditations and quality management really help?

Stefano Nigsch

Research Assistant
University of Zurich
Department of Business Administration
Plattenstrasse 14
CH-8032 Zurich
Tel.: 0041 (0)44 634 29 61
stefano.nigsch@business.uzh.ch

Andrea Schenker-Wicki

Full Professor of Business Administration
University of Zurich
Department of Business Administration
Plattenstrasse 14
CH-8032 Zurich
andrea.schenker@business.uzh.ch

In recent years, institutional accreditations from private providers have become an important form of quality management for business schools all over the world. However, given their high costs and the risk of increasing bureaucratisation and control, accreditations remain highly disputed in academia. This paper provides quantitative empirical evidence regarding the effect of international accreditations on the research performance of business schools. On the basis of an international survey, we analyse how the acquisition of an AACSB and/or EQUIS accreditation affects the institutions' position in the Top 1000 Business School Ranking of the Social Science Research Network. We find that international accreditations are positively related to research performance, while other forms of quality management do not exhibit any significant relationship to ranking positions. These results point to the importance of professional coaching in quality management and to the relevance of having a coherent strategy and recruiting highly qualified personnel.

Keywords: higher education, business school, accreditation, quality management

We sincerely thank Loran Lampart, Nadine Broghammer, and Maria Olivares, who collaborated on this research project. We also thank Prof. Bill McKinley, Prof. Ruth Alas, and the reviewers of the CLADEA Annual Assembly 2012 for their helpful comments and suggestions on prior versions of this paper.

Introduction

The rise of quality management has been one of the most influential developments in higher education over the last 30 years. The emergence of ‘new managerialism’ approaches in higher education (Deem & Brehony, 2005) and the increasing focus on institutional performativity (Ollsen & Peters, 2005) have led universities to implement internal quality management systems based on concepts and models from the business world. Moreover, many governments have started promoting external quality assurance in higher education as an accountability tool in order to ensure that public funds are properly invested (Massaro, 2010; Harvey & Newton, 2004).

In this context, institutional accreditations have become increasingly popular both as external quality assurance tools and as internal quality management approaches (Stensaker, 2011). As higher education institutions need to fulfil a set of standards in order to be accredited, accreditations represent an incentive to optimize the institutions’ internal structures and processes, improving quality, efficiency, and overall performance. Among business schools in particular, the U.S. model of institutional accreditations provided by private agencies has spread worldwide. Today, being internationally accredited by one of the two main agencies in this field, the Association to Advance Collegiate Schools of Business (AACSB) in the United States and the European Quality Improvement System (EQUIS), serves as a quality label and a competitive advantage in the international struggle for the best students and most outstanding researchers (Trapnell, 2007; Urgel, 2007).

However, the effect of accreditations remains highly disputed in academia. Many scholars see accreditations as a restriction on academic freedom, a fruitless bureaucratic burden, and an impediment to adaptation and innovation (Harvey, 2004; Julian & Ofori-Dankwa, 2006; Scheele, 2004). Others view accreditations positively and stress their contributions to strategic planning, organisational effectiveness, and reputation (Zammuto, 2008; Lejeune & Vas, 2009). In both cases, sound empirical evidence for the effect of accreditations is scant. To our knowledge, only a study by Lejeune and Vas (2009) has analysed the impact of accreditations with quantitative survey data. The authors found a positive impact of EQUIS accreditations on organisational culture and effectiveness. However, these results were solely based on the perceptions of the business schools’ deans and did not account for objective performance measures. Similarly, relatively few studies have provided empirical evidence for the positive or negative effects of other forms of quality management in higher education (Kleijnen et al., 2011). Notably scarce are quantitative international studies and contributions that focus on quality management in research, as opposed to merely teaching and learning (Harvey & Williams, 2010).

In the present study, we address these gaps and provide empirical evidence for the effects of accreditations and other forms of quality management on the performance of business schools. Because research has become crucial for a higher education institution’s overall reputation, we focus on research performance as a dependent variable. First, research performance strongly affects the institutions’ position in international university rankings (Buela-Casal, 2007; Horta, 2009). Despite being criticized for their methodology (see for example Toutkoushian et al., 2003), these rankings have a relevant social impact (Meredith, 2004). Secondly, business schools doing quality research are able to attract well-known professors and high-performance students, enabling them to successfully compete at the international level. Our overall research question can be stated as follows: *How does the acquisition of an*

international accreditation affect a business school's reputation - measured as research performance - compared with other quality management approaches?

Currently, the various activities related to quality management within higher education institutions require significant financial and personal resources (Stensaker, 2003). It is therefore important to assess how different forms of quality management influence an institution's performance. Knowing which approaches lead to the best results may help governments and higher education managers optimize their strategies for quality assurance and quality development, thereby improving the reputation, productivity, and cost-efficiency of business schools and other higher education institutions.

Literature Review

Building on the definition provided by Grant et al. (2004), we define quality management as all activities and processes deliberately carried out to design, evaluate and improve teaching, learning, research, and administrative functions within higher education institutions. Quality management has always existed in academia. However, with the diffusion of new public management and the growing need for external accountability, many higher education institutions have begun implementing quality management systems based on concepts and models from the business world (Newton, 2007; Marginson & van der Wende, 2007). Most of these systems follow the philosophy of Total Quality Management (Becket & Brookes, 2008), and many of them adopt either the Malcolm Baldrige Criteria, the Excellence Model of the European Foundation for Quality Management (EFQM), or the ISO-9000 standards. Quality management systems based on concepts from business have the advantage of being easily accepted by external stakeholders (Brookes & Becket, 2007). However, they do not always account for elements specific to higher education institutions, such as academic freedom (Thalner cit. in Houston, 2008, p. 65).

The effect of quality management systems on the overall performance of higher education institutions remains disputed in academia (Tambi et al., 2008). According to Brennan and Shah (2000), the introduction of new quality management systems has been accompanied by a shift in power from the basic unit to the institutional level. Other studies have observed that new forms of quality management lead to higher bureaucratisation (Kogan et al., 2000) and cause disproportionate costs compared to unclear effects (PA Consulting, 2000). Lomas (2004) points out the issue of opportunity costs: the high amount of financial resources needed to implement and maintain a quality management system may be otherwise better invested. Among the positive effects of the new forms of quality management, scholars often mention increased transparency (Stensaker, 2003).

Parallel to the diffusion of quality management systems based on concepts from business, accreditations have become an important way of ensuring the quality of higher education institutions (Stensaker, 2011). The term 'accreditation' describes a process by which an institution obtains the authorization to conduct educational programmes recognized by the state or by another authority. This process makes use of a benchmarking method, refers to specific standards, and aims at a 'yes or no' verdict (Haakstad, 2001). Accreditations may focus on a specific educational programme or an institution as a whole. In many European countries, accreditations by national authorities are compulsory, while in the United States they are traditionally provided by private agencies (Schwarz & Westerheijden, 2005). Among business schools, institutional accreditations provided by private agencies such as AACSB and EQUIS are gaining in importance all over the world. Contrary to national accreditations,

which basically provide a 'right to exist' (Schwarz & Westerheijden, 2005, p. 2), international private accreditations focus on excellence and are assumed to contribute substantially to a business school's reputation (Trapnell, 2007; Urgel, 2007).

Similarly to other forms of quality management, the true effects of accreditations are disputed in academia. For example, Harvey (2004, p. 207), based on a qualitative survey among academics and managers in Britain, the United States, and Canada, concluded that the accreditation process can be 'a power struggle that impinges on academic freedom,' imposing extensive bureaucratic burdens in some cases. Accreditations may also limit innovation opportunities: Julian and Ofori-Dankwa (2006), who focus their analysis on AACSB accreditations, argue that the accreditation process hinders a business school's capability to adapt to a 'discontinuous' and 'turbulent' environment, characterized by technical innovations and increasing competition from corporate and virtual universities.

In contrast, Romero (2008) states that AACSB accreditations encourage flexibility and creativity. Although the author admits a 'lack of published, hard and systematic data' on the effects of accreditation (Romero, 2008, p. 246), he argues that accreditations provide incentives for strategic development, which may in turn improve performance (Miller & Cardinal, 1994). Moreover, international accreditations are expected to enhance the prestige and outlook of higher education institutions, making them more attractive for students and external partners (Temponi, 2005). According to Zammuto (2008), the value of such accreditations as a quality differentiator is rising among part-time working students and international students. On the basis of a survey among 31 deans and directors of EQUIS-accredited schools, Lejeune and Vas (2009) assert that accreditations improve a business school's ability to acquire resources – particularly qualified faculty and academic partners – thus enhancing its performance. In a later study, Lejeune (2011) presents a capability-based model to explain how continuous improvement through accreditation is possible. According to the author, EQUIS accreditations positively influence three core capabilities that lead to competitive advantages amongst business schools: strategizing, changing resources and activities, and branding.

Hypotheses

In line with Romero (2008) and Lejeune and Vas (2009), we expect that international accreditations help business schools improve their research performance. Although both AACSB and EQUIS accreditations focus on teaching, they set clear standards that concern the strategic management of business schools, their organisational processes, and the quality of faculty. Business schools applying for an accreditation need to take specific measures in order to meet these requirements, presumably improving their research performance. We identified six important ways in which these standards and requirements (AACSB, 2012; EQUIS, 2012) may lead to a higher research performance.

1. Mission statement and strategy development: Both AACSB and EQUIS require a clear mission statement that is known and shared by all the business school's faculty and collaborators. Developing a vision about the services they offer and the market they serve will improve the business schools' ability to successfully compete (Zammuto, 2008). Moreover, mission statements should include a clear commitment to high quality research, which may lead business schools to promote research activities. Accredited institutions are also expected to develop clear strategies for how to reach their goals and invest their resources. In line with the strategic management literature (see for example Pearce II et al., 1987; Mosakowski, 1993)

we argue that having a good strategy is central to the success of a business school. According to Lejeune (2011), strategizing is one core capability of business schools that can be fostered through the accreditation process.

2. Effective organisation and management: EQUIS expects a business school to have ‘effective and integrated organisation for the management of its activities’ (EQUIS, 2012, p. 7), while AACSB states that there should be ‘well-documented and communicated processes in place to manage and support faculty members over the progression of their careers consistent with the school’s mission’ (AACSB, 2012, p. 53). Both standards represent an incentive for business schools to improve their organisational effectiveness, release faculty members and scientific collaborators from administrative tasks, and create an environment that fosters good research.

3. Data collection: In order to meet the accreditation requirements, business schools must systematically collect data that reflects in detail the quality of teaching, learning, and research at their institution. In this way, business schools may recognize their strengths and weaknesses and find out where further optimization is needed.

4. Faculty requirements: AACSB and EQUIS set high standards concerning the qualification of faculty in teaching and research. As a result, business schools applying for accreditation may recruit high-profile academics, paying them accordingly. Hedrick et al. (2010) found that in faculties with AACSB accredited programmes, researchers were paid more and performed better than in those without accreditation. The quality of the academic staff is indeed the most important factor for the success of a higher education institution in the long term (Liefner, 2003).

5. External cooperation: EQUIS accreditation in particular calls for a business school to cooperate internationally with other higher education institutions and maintain connections with the corporate world. External cooperation may contribute to faculty development and productive research (Lejeune & Vas, 2009). Moreover, once accreditation has been achieved, the label’s prestige and branding effects can make it easier to find appropriate partners (Temponi, 2005).

6. Internal integration: According to Lejeune and Vas (2009), the accreditation process is likely to increase internal cohesion between individuals who mobilize themselves in order to meet accreditation standards and earn the label. Higher education institutions are typically composed of multiple basic units with a high degree of autonomy and individual views or perceptions. In this context, accreditations may foster cooperation within the business school, consensus on goals, and a common understanding of problems to be solved.

On the basis of these considerations, our main hypothesis can be stated as follows:

Hypothesis 1: The acquisition of one or more international accreditations leads to higher research performance in business schools.

Contrary to international accreditations, we do not expect accreditations by state agencies to be significantly related to research performance. These national accreditations have become important in many countries as a quality assurance tool (Haakstad, 2001), but they do not necessarily attest to outstanding achievements in teaching and research. Among other differences, they set lower standards than international accreditations regarding the quality of faculty and the intensity of external cooperation. Moreover, national accreditations do not

necessarily require clear mission statements and strategies, and focus less on research performance compared to teaching.

Hypothesis 2: Accreditation by a national authority has no significant effect on research performance in business schools.

Outside the context of accreditations, the implementation of a quality management system may contribute to higher research performance. In most cases, these systems imply the creation of a separate entity within the business school charged with coordinating various quality management activities. Drawing on the principal-agent theory of Jensen and Meckling (1976), we assume that having such an entity in charge of quality management may serve as an incentive for a higher education institution's staff to work in a more diligent way. Moreover, systematic data collection may help higher education managers to identify potential areas for further improvement. Although quality management systems often involve a high degree of bureaucratisation (Kogan et al., 2000), they are reported to improve the efficiency of administrative processes (Brookes & Becket, 2007). Increased efficiency may enable academic personnel to devote more time to research, in turn contributing to higher research performance. In order to assure that quality management processes are not limited to teaching and learning, we consider only quality management systems that explicitly include research activities and administrative processes. As accreditations and quality management both require systematic data collection and aim to improve organisational processes, we further expect the two approaches to be positively correlated with each other. For example, a functioning quality management system could ease the accreditation process. At the same time, achieving accreditation may serve as an incentive for a business school to introduce a quality management system.

Hypothesis 3a: Business schools that have implemented a quality management system covering research activities exhibit higher research performance.

Hypothesis 3b: Business schools that have implemented a quality management system are more likely to have achieved international accreditation.

Evaluating and discussing research projects and contributions within a business school's faculty is another important form of quality management. According to Kaufmann (2009), regular meetings or mentoring as well as informal and spontaneous feedback contribute to quality assurance and quality development in higher education. We call these forms of quality management 'feedback loops,' and expect them to improve a business school's research performance. In the higher education literature, the concept of feedback loops generally refers to the opinion of external stakeholders and course evaluations by students (Venkatraman, 2007; Becket & Brookes, 2006). However, in the present study we consider only faculty-internal feedback loops for research projects. As international accreditations contribute to integration and cooperation within business schools (Lejeune & Vas, 2009), we expect such feedback loops to be positively correlated to the achievement of an AACSB or EQUIS accreditation. The presence of feedback loops can be seen as an indicator for the level of integration within the faculty and represent one of the mechanisms through which accreditations improve research performance.

Hypothesis 4a: Business schools with internal feedback loops for research projects exhibit higher research performance.

Hypothesis 4b: Business schools with internal feedback loops for research projects are more likely to have achieved international accreditation.

Methods

For our statistical population, we used the higher education institutions registered in the *Top 1000 Business School Ranking* of the *Social Science Research Network* (SSRN) in June 2010. On the SSRN website, researchers from all over the world can publish their research results at an early stage as working papers. Since 2005, the SSRN has analysed these publications in order to measure and compare the performance of higher education institutions. SSRN rankings are based on the number of papers posted by a higher education institution in the SSRN eLibrary and the frequency with which these papers are downloaded. The rankings are updated monthly and can be consulted for free.

By the end of 2010, we had contacted more than 1'250 school directors via e-mail and invited them to participate in an online survey. Of these, 99 responded in the first round. In a second round in spring 2011, we contacted 75 school directors from the top 250 business schools by telephone and obtained 18 additional feedbacks. The total of 117 responses corresponds to a feedback rate of nearly 10 per cent, which is rather low for online questionnaires in organisational research (Baruch & Holtom, 2008).

Of the 117 institutions in the final sample, 41 were actually economic departments of universities registered as business schools on the SSRN website. The majority of the business schools (79 per cent) were public institutions. Their size ranged from a few dozen students to more than 14'000, and their budgets accordingly from 80'000 to over 300 million USD. On average, the business schools had around 2'100 full time students and a budget of 26.8 million USD. 42 per cent of the institutions were located in Europe, 37 per cent in the USA, 12 per cent in Asia and 9 per cent in other regions (Latin America, Africa and Oceania). Among the participating business schools, 46 had implemented quality management systems covering research activities, including administrative processes and chair planning. 48 business schools were accredited by a national authority, while 59 had achieved international accreditation by AACSB or/and EQUIS. In order to measure feedback loops for research projects, we asked if research contributions by faculty members were regularly evaluated and results discussed within the faculty. 88 business schools said they had this type of feedback loops.

Using a similar approach to Aghion et al. (2010), we compared the research performance of business schools with their position in the *SSRN Top Business School Ranking*. Black and Caron (2006) analysed the SSRN ranking of law schools as a measure of research performance. They concluded that SSRN rankings represent a valid and transparent instrument for measuring the output side of research performance. Because of their focus on working papers, these rankings offer real time data and favour younger scholars and emerging schools. The SSRN rankings can therefore be seen as 'leading' indicators of a faculty's influence, while traditional indicators such as reputation surveys and citation counts have a more 'lagging' character (Black & Caron, 2006, p. 112).

A problem that persists with the SSRN rankings is their high volatility in the lower positions. Just a few downloads of a working paper can cause an upward shift of 75 positions. For this reason, we randomly chose three monthly rankings between May 2010 and April 2011 to calculate an average ranking. Additionally, to test our model we needed only to consider the business schools that participated in the survey. Following Currie and Pandher (2011), who analysed rankings of finance journals, we created four categories and classified the higher

education institutions in our sample according to their absolute position in the entire ranking. Our four categories correspond to the classification used by the *Academic Journal Quality Guide* (Harvey et al., 2010) and represent the best 10 per cent (world elite), the following 25 per cent (above average ranking), the middle 40 per cent (average ranking) and the last 25 per cent (rather low ranking).

In our analysis, we controlled for the size of the business schools – operationalized with the number of full-time students – and the operating budget per student. Moreover, because business schools with little focus on research may be internationally accredited but still have few publications on SSRN, we needed to control for the institution's research orientation. We expected that business schools that offer a PhD programme would be more research oriented. Finally, we included the offer of specific programmes for managers and chief officers (Executive Education) in our analysis. Executive Education can allow for synergies between research and practice. New research insights may be presented in the courses and critically questioned by the students, who have sound experience outside academia. This feedback can help optimise teaching and contribute to further research (Tushman et al., 2007). Executive Education also enables business schools to widen their financial base and acquire more resources. Moreover, it may boost public awareness of the business school and contribute to its reputation.

Results

Because our dependent variable is ordinal, we used an ordered-logit regression to test our hypotheses (see for example Agresti, 2010). The ordered-logit regression estimates the influence of independent factors on the probability of a business school being in a certain ranking category. For the results to be meaningful, independent factors should not exhibit strong multicollinearity and have the same coefficients across all ordinal categories of the dependent variable. Both conditions were met by our data. In order to better interpret the effects of our accreditation and quality management variables, we analysed five different models that included a different number of independent factors (see table 1).

The factors for the acquisition of an international accreditation (X1) and the presence of internal feedback loops for research projects (X4) proved to be positively and significantly related to business schools' ranking positions. Similarly, all four control variables (C1 to C4) exhibited mostly significant coefficients that pointed in the expected direction. In contrast, the effects of being nationally accredited (X2) and of having a quality management system implemented (X3) were close to zero and not significant. With a pseudo R^2 value of 0.584 in model 4, we can conclude that our independent and control variables explain to a large extent variation in the dependent variable. The results of the likelihood-ratio test proved to be highly significant, which implies that our independent variables taken together have a significant effect on the business schools' ranking positions.

In order to test our hypotheses about the relationship between international accreditations and other forms of quality management, we needed to estimate the correlations among independent factors (see table 2). As expected, international accreditations proved to be strongly correlated with feedback processes. However, we did not find any correlation between international accreditations and the implementation of a quality management system.

Table 1: Results of the ordered-logit regression

Variables (measurement level)	Model 0 β (SE)	Model 1 β (SE)	Model 2 β (SE)	Model 3 β (SE)	Model 4 β (SE)
X1 International accreditation (dummy)		1.811*** (0.468)	1.829*** (0.472)	1.820*** (0.474)	1.631*** (0.484)
X2 National accreditation (dummy)			0.113 (0.397)	0.099 (0.400)	-0.003 (0.405)
X3 Quality management system (dummy)				0.106 (0.382)	-0.008 (0.388)
X4 Feedback loops (dummy)					1.277*** (0.479)
C1 Number of students (in thousands, interval)	0.636*** (0.126)	0.562*** (0.129)	0.562*** (0.129)	0.561*** (0.130)	0.553*** (0.130)
C2 Budget-per-student (in U.S. Dollars, interval)	0.093*** (0.026)	0.064** (0.026)	0.064** (0.026)	0.063** (0.026)	0.068*** (0.025)
C3 PhD (dummy)	0.256 (0.405)	1.299*** (0.490)	1.282*** (0.494)	1.287*** (0.494)	1.379*** (0.508)
C4 Executive Education (dummy)	0.968** (0.416)	0.904** (0.420)	0.885** (0.425)	0.879** (0.425)	0.882** (0.431)
Pseudo R² (Nagelkerke)	0.475	0.552	0.552	0.552	0.584
Dependent variable: 4 SSRN ranking categories. Significance levels * < 0.1, ** < 0.05, *** < 0.01 Standard errors in brackets.					

Table 2: Correlation matrix

Variables	Rank	X1	X2	X3	X4	C1	C2	C3
X1 Int. accred.	0.424***							
X2 Nat. accred.	0.072	-0.146						
X3 QM system	0.137	0.133	0.111					
X4 Feedback loops	0.322***	0.302***	0.036	0.178*				
C1 Students	0.442***	0.182**	0.044	0.020	0.160*			
C2 Budget	0.436***	0.288***	0.006	0.163*	0.071	0.020		
C3 PhD	0.297**	-0.302***	0.258***	-0.025	-0.070	0.236**	0.245***	
C4 Ex. Education	0.323***	0.112	0.181*	0.119	0.045	-0.041	0.319***	0.237**
Significance levels: * < 0.1, ** < 0.05, *** < 0.01								

Discussion

Our results indicate that the presence of one or two international accreditations significantly enhances a business school's ranking position. Empirical evidence thus supports our *first hypothesis* and confirms that international accreditations may contribute to higher research performance. It is not only AACSB and EQUIS's branding effect that improves a business school's reputation. International accreditations may influence reputation indirectly through their positive effect on research performance and ranking positions (Bowman & Bastedo, 2011). As expected, the same argument does not apply for national accreditations. Nationally accredited business schools do not perform better than others, which supports our *second hypothesis*.

Our analysis did not provide any empirical evidence for the effect of a quality management system on a business schools' research performance, so *hypothesis 3a* could not be confirmed. Similarly, our data did not support *hypothesis 3b* regarding the correlation between quality management systems and international accreditations. These results reflect some of the critical literature on quality management (see for example Lomas, 2004; Temple, 2005). Positive effects of quality management systems, such as increased efficiency of organisational processes and higher transparency (Stensaker, 2003) may be outweighed by expanded bureaucratisation (Kogan et al., 2000). Moreover, unlike international accreditations, quality management systems do not necessary contribute to strategy development or improve a business school's attractiveness to renowned researchers and external research partners.

Beyond the effects of international accreditations, internal feedback loops for research projects significantly influence a business school's ranking position. Our analysis supported *hypothesis 4a*, confirming the importance of faculty members evaluating one another's research projects as a form of quality management (Kaufmann, 2009). As predicted in *hypothesis 4b*, these feedback loops are also positively correlated to international accreditations. Empirical evidence thus endorses the assumption that international accreditations foster faculty integration and cooperation within business schools (Lejeune & Vas, 2009). Including feedback loops in the ordered-logit regression slightly decreases the coefficient of the factor for international accreditations (see model 4), which confirms that feedback loops act as a mediating variable on the relationship between accreditation and research performance.

Among the control variables, all of our factors proved to be significantly related to research performance in the expected direction. As hypothesised, a business school's size and relative access to resources positively affect its position in the SSRN ranking. Moreover, the number of students and the budget-per-student variables were positively correlated with achievement of international accreditations. Bigger and richer business schools are thus more likely to have accreditation. Finally, the positive and significant coefficient for our Executive Education variable supports the assumption that Executive Education programmes contribute to the research performance of business schools (Tushman et al., 2007). The positive correlation between Executive Education and budget per student reflects the assumption that Executive Education may influence research performance by providing additional financial resources.

According to Shah (1997), the impact of quality management on changes in higher education cannot be easily separated from the effect of other factors. In our analysis we could not consider the knowledge and skills of the academic personnel directly, which is likely to have

a relevant impact on research performance and accreditation (Liefner, 2003). Another problem that has to be addressed is causality. Our ordered-logit model does not indicate precisely if it is the supposedly independent variable which affects the dependent one or vice versa. Causality may be a problem especially in the case of international accreditations. As higher education institutions must meet specific standards of education and research in order to be accredited, research performance may influence the probability of achieving accreditation. However, our theoretical considerations regarding the effect of accreditations on research performance are all plausible and we expect that causality works at least in both directions.

Conclusions

The aim of this study was to provide quantitative empirical evidence for the effects of international accreditations and quality management on the research performance of business schools. While international accreditations proved to be positively and significantly related to research performance, we did not find any empirical evidence for the effect of national accreditations or the implementation of quality management systems. This leads us to the conclusion that international accreditations provide specific incentives that increase research performance. Among these incentives, high standards concerning a coherent strategy and the quality of faculty seem to be particularly relevant (Romero, 2008; Lejeune, 2011). Many quality management systems do not cover these areas and focus instead on data collection, organisational effectiveness, and control. Moreover, higher education institutions often implement internal quality management systems on their own, adopting models from the business world without direction from experienced professionals. Our results demonstrate the importance of professional coaching in quality management, which is characteristic of international accreditations.

This study represents a first attempt at analysing the effects of international accreditations in a quantitative empirical way. We focused on business schools and took a broad international perspective. Further contributions might investigate the impact of accreditations and quality management in other contexts and in single countries or regions. It would also be interesting to specify the variables used and analyse, for example, differences between AACSB and EQUIS accreditations. Moreover, a further differentiation of quality management systems is needed. Both national quality assurance systems and internal quality management approaches vary greatly between countries and higher education institutions (Billing, 2004; Houston, 2008). A new survey would need to include specific definitions and explanations in order to better distinguish different approaches to quality management and account for the existing diversity.

In the context of increasing international competition (Marginson, 2006; Teichler, 2004) research performance has become a central factor influencing a higher education institution's reputation and its ability to successfully recruit the best students and most highly qualified faculty. Given the high costs associated with different forms of quality management, it is important to identify which approaches lead to the best results. According to our findings, applying for an international accreditation is a useful form of quality management if an increase in research performance and thus reputation is the goal to be achieved.

References

- Aghion, P., Dewatripont, M., Hoxby, C., Mas-Colell, A., & Sapir, A. (2010). The governance and performance of universities: Evidence from Europe and the US. *Economic Policy*, 25(61), 7-59.
- Agresti, A. (2010). *Analysis of ordinal categorical data* (2nd ed.). Hoboken, NJ: John Wiley.
- Association to Advance Collegiate Schools of Business AACSB. (2012). *Eligibility procedures and accreditation standards for business accreditation* (Revised: January 31, 2012). Tampa, FL: Author.
- Baruch, Y., & Holtom, B. C. (2008). Survey response rate levels and trends in organizational research. *Human Relations*, 61(8), 1139-1160.
- Becket, N., & Brookes, M. (2006). Evaluating quality management in university departments. *Quality Assurance in Education*, 14(2), 123-142.
- Becket, N. & Brookes, M. (2008). Quality management practice in higher education: What quality are we actually enhancing? *The Journal of Hospitality, Leisure, Sport and Tourism*, 7(1), 40-54.
- Billing, D. (2004). International comparison and trends in external quality assurance of higher education: Commonality or diversity? *Higher Education*, 47(1), 113-137.
- Black, B. S., & Caron, P. L. (2006). Ranking law schools: Using SSRN to measure scholarly performance. *Indiana Law Journal*, 81(1), 83-139.
- Bowman, N. A., & Bastedo, M. N. (2011). Anchoring effects in world university rankings: exploring biases in reputation scores. *Higher Education*, 61(4), 431-444.
- Brennan, J., & Shah, T. (2000). Quality assessment and institutional change: Experiences from 14 countries. *Higher Education*, 40(3), 331-349.
- Brookes, M., & Becket, N. (2007). Quality management in higher education: A review of international issues and practice. *The International Journal for Quality and Standards*, 1(1), 1-37.
- Buela-Casal, G., Gutiérrez-Martínez, O., Bermúdez-Sánchez, M. P., & Vadillo-Muñoz, O. (2007). Comparative study of international academic rankings of universities. *Scientometrics*, 71(3), 349-365.
- Currie, R. R., & Pandher, G. S. (2011). Finance journal rankings and tiers: An active scholar assessment methodology. *Journal of Banking & Finance*, 35(1), 7-20.
- Deem, R., & Brehony, K. J. (2005). Management as ideology: The case of 'new managerialism' in higher education. *Oxford Review of Education*, 31(2), 217-235.
- European Quality Improvement System EQUIS (2012): *EQUIS standards & criteria*. (Document version: January 2012). Available from <http://www.efmd.org/index.php/accreditation-main/equis/equis-guides>.
- Grant, D., Mergen, E., & Widrick, S. (2004). A comparative analysis of quality management in US and international universities. *Total Quality Management & Business Excellence*, 15(4), 423-438.
- Haakstad, J. (2001). Accreditation: The new quality assurance formula? Some reflections as Norway is about to reform its quality assurance system. *Quality in Higher Education*, 7(1), 77-82.
- Harvey, C., Kelly, A., Morris, H., & Rowlinson, M. (2010). *Academic journal quality guide* (Version 4). London: The Association of Business Schools.
- Harvey, L. (2004). The power of accreditation: Views of academics. *Journal of Higher Education Policy and Management*, 26(2), 207-223.
- Harvey, L., & Newton, J. (2004). Transforming quality evaluation. *Quality in Higher Education*, 10(2), 149-165.

- Harvey, L., & Williams, J. (2010). Fifteen years of quality in higher education (part two). *Quality in Higher Education*, 16(2), 81-113.
- Hedrick, D. W., Henson, S. E., Krieg, J. M., & Wassell, C. S. (2010). The effects of AACSB accreditation on faculty salaries and productivity. *Journal of Education for Business*, 85(5), 284-291.
- Horta, H. (2009). Global and national prominent universities: Internationalization, competitiveness and the role of the state. *Higher Education*, 58(3), 387-405.
- Houston, D. (2008). Rethinking quality and improvement in higher education. *Quality Assurance in Education*, 16(1), 61-79.
- Jensen, M., & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Julian, S. D. & Ofori-Dankwa, J. C. (2006). Is accreditation good for the strategic decision making of traditional business schools? *Academy of Management Learning & Education*, 5(2), 225-233.
- Kaufmann, B. (2010). *Wegweiser 2010: Qualitätssicherung an Hochschulen* (Beiträge zur Hochschulpolitik). Bonn: Hochschulrektorenkonferenz.
- Kleijnen, J., Dolmans, D., Willems, J., & van Hout, H. (2011). Does internal quality management contribute to more control or to improvement of higher education? A survey on faculty's perceptions. *Quality Assurance in Education*, 19(2), 141-155.
- Kogan, M., Bauer, M., Bleilie, I. & Henkel, M. (2000). *Transforming higher education: A comparative study*. London: Jessica Kingsley.
- Lejeune, C., & Vas, A. (2009). Organizational culture and effectiveness in business schools: A test of the accreditation impact. *Journal of Management Development*, 28(8), 728-741.
- Lejeune, C. (2011). Is continuous improvement through accreditation sustainable? *Management Decision*, 49(9), 1535-1548.
- Liefner, I. (2003). Funding, resource allocation, and performance in higher education systems. *Higher Education*, 46(4), 469-489.
- Lomas, L. (2004). Embedding quality: The challenges for higher education. *Quality Assurance in Education*, 12(4), 157-165.
- Marginson, S. (2006). Dynamics of national and global competition in higher education. *Higher Education*, 52(1), 1-39.
- Marginson, S., & van der Wende, M. (2007). *Globalisation and higher education*. Paris: OECD/CERI.
- Massaro, V. (2010). Cui bono? The relevance and impact of quality assurance. *Journal of Higher Education Policy and Management*, 32 (1), 17-26.
- Meredith, M. (2004). Why do universities compete in the ratings game? An empirical analysis of the effects of the 'U.S. News and World Report' college rankings. *Research in Higher Education*, 45(5), 443-461.
- Miller, C. C., & Cardinal, L. B. (1994). Strategic planning and firm performance: A synthesis of more than two decades of research. *Academy of Management Journal*, 37(6), 1649-1665.
- Mosakowski, E. (1993). A resource-based perspective on the dynamic strategy-performance relationship: An empirical examination of the focus and differentiation strategies in entrepreneurial firms. *Journal of Management*, 19(4), 819-839.
- Newton, J. (2007). What is quality? In L. Bollaert, S. Brus, B. Curvale, L. Harvey, E. Helle, H. T. Jensen, ..., A. Sursock (Eds.), *Embedding quality culture in higher education: A selection of papers from the 1st European Forum for Quality Assurance* (EUA Case Studies, pp. 14-20). Brussels: European University Association.

- Ollsen, M., & Peters, M. A. (2005). Neoliberalism, higher education and the knowledge economy: From the free market to knowledge capitalism. *Journal of Education Policy*, 20(3), 313-345.
- PA Consulting (2000). *Better accountability for higher education: Summary of a review for the HEFCE*. Available from http://www.hefce.ac.uk/pubs/hefce/2000/00_36.pdf.
- Pearce II, J. A., Robbins, D. K., & Robinson, R. B. Jr. (1987). The impact of grand strategy and planning formality on financial performance. *Strategic Management Journal*, 8(2), 125-134.
- Romero, E. J. (2008). AACSB accreditation: Addressing faculty concerns. *Academy of Management Learning & Education*, 7(2), 245-255.
- Scheele, K. (2004). Licence to kill: About accreditation issues and James Bond. *Quality in Higher Education*, 10(3), 285-293.
- Schwarz, S., & Westerheijden, D. F. (2005). Accreditation in the framework of evaluation activities: A comparative study in the European higher education area. In S. Schwarz & D. F. Westerheijden (Eds.), *Accreditation and evaluation in the European higher education area* (Higher Education Dynamics, pp. 1-41). Dordrecht: Kluwer Academic Publishers.
- Shah, T. (1997). Quality management, quality assessment and the decision-making process: The IMHE project on institutional impact. In J. Brennan, P. de Vries, & R. Williams (Eds.), *Standards and quality in higher education* (Higher Education Policy Series, pp. 205-216). London: Jessica Kingsley.
- Stensaker, B. (2003). Trance, Transparency and Transformation: The impact of external quality monitoring on higher education. *Quality in Higher Education*, 9(2), 151-159.
- Stensaker, B. (2011). Accreditation of higher education in Europe: Moving towards the US model? *Journal of Education Policy*, 26(6), 757-769.
- Tambi, A. M. B., Ghazali, M. C., & Yahya, N. B. (2008). The ranking of higher education institutions: A deduction or delusion? *Total Quality Management & Business Excellence*, 19(10), 997-1011.
- Teichler, U. (2004). The changing debate on internationalisation of higher education. *Higher Education*, 48(1), 5-26.
- Temple, P. (2005). The EFQM Excellence Model: Higher education's latest management fad? *Higher Education Quarterly*, 59(4), 261-274.
- Temponi, C. (2005). Continuous improvement framework: Implications for academia. *Quality Assurance in Education*, 13(1), 17-36.
- Toutkoushian, R., Porter, S., Danielson, C., & Hollis, P. (2003). Using publication counts to measure an institution's research productivity. *Research in Higher Education*, 44(2), 121-148.
- Trapnell, J. E. (2007). AACSB international accreditation: The value proposition and a look to the future. *Journal of Management Development*, 26(1), 67-72.
- Tushman, M. L., Fenollosa, A., McGrath, D. N., O'Reilly, C., & Kleinbaum, A. M. (2007). Relevance and rigor: Executive Education as a lever in shaping practice and research. *Academy of Management Learning & Education*, 6(3), 345-362.
- Urgel, J. (2007). EQUIS accreditation: Value and benefits for international business schools. *Journal of Management Development*, 26(1), 73-83.
- Venkatraman, S. (2007). A framework for implementing TQM in higher education programs. *Quality Assurance in Education*, 15(1), 92-112.
- Zammuto, R. F. (2008). Accreditation and the globalization of business. *Academy of Management Learning & Education*, 7(2), 256-268.